



THE RARA RAG

Newsletter of The Rochester Amateur Radio Association, Inc.

Founded in 1931

JULY 2023
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CHANGE OF DATE – OUR ANNUAL PICNIC IS NOW JULY 29TH

TIM BARRETT, K9VB, RARA VICE PRESIDENT

As is usual, we are not having a general meeting in July so don't go to the BSA on the first Wednesday, you will be on your own! Instead we have our annual picnic at Mendon Ponds. However to avoid a clash with other events we have moved this to be a week later than previously advertised. It is now on July 29th. Please join us at the picnic! It will be held at the Devil's Bathtub shelter in Mendon Ponds Park on Saturday, 29th July from 11:00AM to 2:00PM. This is always a great occasion and an opportunity to enjoy good food, good company and play with radios! With an open field and surrounding woods, the Devil's Bathtub shelter provides lots of choices for antenna deployments! You are welcome to



set up your own rig, or to explore what others have set up. Although there is no AC power at the shelter, we expect to have several 12V batteries available for your use – just bring the correct DC cable for your radio.

As usual we will be cooking burgers and hots and will also provide cold drinks. The site offers an open shelter, picnic tables inside and outside, and a porta-potty. Feel free to bring folding chairs and/or a pop-up to create your own space! Set up will start around 10:00AM, and the grills will be ready by noon. You are of course welcome to get there early to enjoy the day and each other's company. Hoping to see you there!

RARA

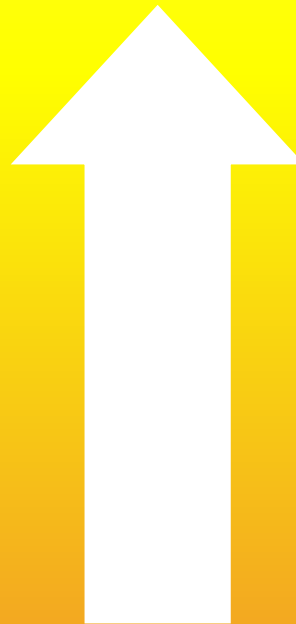


YouTube

JULY IS FOR PICNICS

THERE IS NO RARA MEETING IN JULY
THE PICNIC
IS THE
MEETING

SATURDAY JULY 29
DEVIL'S BATHTUB, MENDON PONDS PARK



See page 1 for details

BOARDZ BUZZ

TIM GUYOT, KB1POP, BOARD MEMBER

It was a bit chilly when the first volunteers arrived around 0500 to finish setup, but with no chance of rain in the forecast, we had no complaints.

We were scheduled to open at 0700, but thanks to dedicated volunteers that arrived early, we were able to start letting flea market sellers come in and find their places early at 0630. We had over 100 vehicles come into the flea market to sell. We were also able to open general admission before 0800. In total we had about 525 non-volunteer attendees.

An early morning was made easier for all thanks to Jeff and his team with hot food and hot coffee ready from the moment we started.

We didn't advertise this very much, but most of this year's admission increase was dedicated to the RARA Technology Grant.

RARA established a grant to provide funding for educational projects and specific equipment needs that promote practical applications in the STEM fields of electronics and radio communications with an emphasis on youth-based activities.

In 2022 RARA awarded the grant to the Antique Wireless Association for a trailer that will be used to extend the AWA Radio Fab Lab program and provide on-site sessions at area schools. In 2018, the grant was awarded to the FIRST Lego Robotics program at St. Louis School where the equipment served 20 students in its first year.

This year \$2 of each paid Hamfest admission was earmarked for the grant account to help fund future initiatives of this type.

We had thirteen people pass their license exams of which seven were new licensees. Thanks to our VE team, and congratulations to those who passed for their first license and to those who achieved an upgrade. Details are below in the VE Team section of the Rag.

Attendees did not need to be present to receive Bucket raffle prizes, but most still were. All four Bucket prizes have been delivered to their winners.

- BTech DMR-6X2 PRO NO CALL SIGN
- Yaesu FT-710 N1GBE
- Samlex SEC-1235P-M KV2X
- Ham Radio Deluxe Gift Certificate KD2QZG

It was another successful year for the Country Store where RARA sold some donations and brokered the sale of items from a handful of attendees.

Ed Gable K2MP reports that while the volume of QSL Card Checking for ARRL

Awards at Rochester Hamfests has declined, he still had a few "customers" who were happy to have their cards checked with a successful outcome and both achieved a DXCC enhancement.

I cannot thank our volunteers enough. Many worked more than one shift without being asked, making sure that attendees had a good experience. This includes the activities that many people saw during the event like ticketing, parking, country store, raffle, membership, and talk-in, but also efforts before and after the event like coordinating prizes, event setup, and event cleanup.

The last bit of my report will be a solicitation. We're always looking for ways to make the event better. If you have ideas you'd like to share, please e-mail hproducer@rochesterham.org.

Our Volunteers

We all owe these folks thanks. Without their efforts, there wouldn't be a hamfest!

First Name	Last Name	Call Sign
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Erin	Platteter	AA2FO
DP	DUNN	AB2NM
Joe	DiVincenzo	AD2DB
Edward	Gable	K2MP
Gary	Perkins	K2OU
Duane	Fregoe	K2SI
George	Adams	K4GWA
Karl Heinz	Kremer	K5KHK
Brian	OConnor	KA2CGB
Bill	Holtz	KA2WNS
Mike	Moore	KC2NM
Mark	Pedersen	KC2UES
Dawn	Lepard	KC2VJU
Tom	Wood	KD2IOB
Stu	Allen	KD2TWM
Rich	Bishopp	KD2UBJ



First Name	Last Name	Call Sign
Mike	Sanchez	KM2B
Peter	Sitter	N2AJK
Steve	Gulack	N2DZS
Edward	Ellingsworth	N2IUO
Mike	Kennerknecht	N2MAK
John	Viggiano	NV2K
Ben	Kennerknecht	W2BMK
Michael	Panzica	W2NVP
Susan	Aiello	W2SBA
Peter	Fournia	W2SKY
Suzanne	Bishopp	W2SUZ
Cedric	Kron	WA2FTV
Dave	Wilson	WA2HOY
Forest	Shick	WA2MZG
Jeff	Sonstein	WA2RRB
Tim	Brown	WB2PAY
Don	Kiser	AC2EV
Lawrence	Safford	AB2OY
Dave	Enright	K3WHD
Dennis	O'Donnel	AC2XI
Eugene	Carletta	K2OI
Duane	Fregoe	K2SI



Our Vendors, Donors, and Partners

Even though we had a bit of a late start this year, all of these organizations were ready to do their part and more. Thanks!

- C.O.P. Security, Inc.
- Hilton Exempt Club
- Hilton Fire Department
- T-Shirt Express
- United Rentals via DBA Reliable Onsite
- Tech Fusion Group
- McCarthy Tents & Events
- RW Antenna
- BTech
- DX Engineering
- NatCommGroup
- HamRadio Deluxe
- Easy Way Ham Books
- QRP Amateur Radio Club International
- N3FPJ Software
- MFJ
- CQ Magazine
- Samlex America
- Heil Sound
- Alpha Antenna



Photos courtesy AB2NM and WB2HOY

CALENDAR OF EVENTS

THURSDAY JULY 6, 2023 - RARA Board of Directors Meeting
6:30 PM - ONLINE
Email request for link to secretary@rochesterham.org

SATURDAY JULY 29, 2023—RARA Summer Picnic at the Devil's Bathtub Shelter at Mendon Ponds Park

SATURDAY, AUGUST 19, 2023—International Lighthouse Lightship Weekend, 10AM to 5PM

RARA MEMBERSHIP NEWS

TIM BARRETT, K9VB, RARA VICE PRESIDENT AND MEMBERSHIP SECRETARY

I'm pleased to say that, thanks to the excellent efforts of Suzanne and Richard Bishopp at the Hamfest membership desk our membership has increased significantly and currently stands at 564 full or associate members.

Now is a great time to join or renew because from the date of the Hamfest we extend all renewals or new memberships through until September 30th of next year so you get 15 months membership for the price of 12. Let's see if we can make the 600 membership level!

If you are not currently a member or still need to renew, please do so [here](#).

There are many membership benefits, here are just some of them:

- Only members can attend the RARA Annual Auction
- Free admission to the RARA Hamfest
- Access to license classes and discounts for license manuals
- Annual events such as the Picnic and Winterfest
- Membership points for contributing to club events
- Supporting an Organization that you value!

Being a member is also important, as your dues and a healthy membership count contribute to many RARA activities such as Rag subscription, monthly meetings, RARA Academy sessions Elmer's Corner, [groups.io](#) mailing list, Facebook page, etc. Attracting good speakers is greatly helped when we can point to the size of our club, one of the largest ARRL affiliated clubs by the way.



I'd also like to give a warm welcome to the following new members who joined the club at the Hamfest:

David Taylor, KC2YTE
Stephen Czank
Scott DiMoro
Hartmann Falkner
Kevin Justice
Bruce Nelson
Eugene Baker, KD2ZMN
Ryan Buono, KD2YXS
Thomas Webb, W2TEW

If you see any of our new members at a RARA meeting or event make sure to introduce yourself and welcome them to the club!

RARA APPAREL AND OTHER MERCHANDISE IS NOW AVAILABLE!

TIM BARRETT, K9VB, RARA VICE PRESIDENT AND MEMBERSHIP SECRETARY

If you were at the Hamfest you probably saw our new Merchandise Manager Yin He, KD2YIQ in the RARA area with examples of RARA apparel and other items with the RARA logo for sale.

This has been requested by many of our members so we are very pleased to finally be able to make RARA merchandise available. A big Thank You to Yin for her work setting this up.

We plan to expand the offerings as demand and time permit based on your feedback so do please let Yin or the board know if you have any suggestions.

Right now if you missed the opportunity at the Hamfest, items can be purchased online at www.cafepress.com/rararadio so please check out the website and consider making a purchase. Looking forward to everybody in RARA gear at our next meeting!!





EDUCATION

Karl Heinz Kremer, K5KHK, Education Coordinator

RARA LICENSE COURSES

Karl Heinz Kremer, K5KHK, License Class Coordinator

License Classes

Our license classes are taking a summer break. If you are interested in taking one of our next classes in the fall, please send an email to education@rochesterham.org, and we will put you on the list.

New General Question Pool

The new General question pool is used for exams after 7/1/2023 and will be active for four years.

License Manuals

Even though we are not teaching any classes over the summer, we still have the license manuals available if you want to study on your own. The current editions of the Technician and General license manuals are available to our members at a discount for \$25. I will order more Amateur Extra books before the fall. If you are interested, please send an email to education@rochesterham.org

RARA ACADEMY

We are again looking for a coordinator for RARA Academy sessions. This role does not require that you can teach academy classes, it only requires that you are good at organizing things. If you are interested, please get in touch with us.

Our survey for Academy session topics is still active: Please go to <http://tiny.cc/RaRaAcademySurvey2022> and fill out the survey. If this short link should not work, you can also use this link: https://docs.google.com/forms/d/e/1FAIpQLSfe_RvJyAfc2BidWxePLvK1r_CjQosS1PV0Ua6m2zETiyPa-w/viewform

If you are able to actually present such an Academy session, please also get in touch with us at education@rochesterham.org.

RARA ELMERS' CORNER

Suzanne Bishopp, W2SUZ
Rich Bishopp, KD2UBJ
Elmers' Corner Coordinators

Happy Camping season! As you may know, Rich and I do a lot of camping, so we take the summer off from doing the Elmers' Corner Zoom sessions.

Even though our zoom session will take the summer off, we will still be here to find answers for all of your questions. Just email them to us at elmerscorner@rochesterham.org, and we will find the answer for you and get you the help you need.

Put the Elmers' Corner on your calendar, as a reminder it is the 1st Saturday of every month, September – May, 10am-12pm.

ELMERS' CORNER

1st Saturday of the month
September – May

Next Zoom Meeting:
September 2nd 10AM – 12PM

W1AW On The Air CW Practice

Time	Mon	Tue	Wed	Thu	Fri
9 AM		Fast	Slow	Fast	Slow
4 PM	Fast	Slow	Fast	Slow	Fast
7 PM	Slow	Fast	Slow	Fast	Slow
10 PM	Fast	Slow	Fast	Slow	Fast

SLOW - 5, 7 1/2, 10, 13 and 15 wpm

FAST - 35, 30, 25, 20, 15, 13 and 10 wpm

FREQ(MHz) - 1.8025, 3.5815, 7.0475, 14.0475, 18.0975, 21.0675, 28.0675, 50.350, 147.555

<http://www.arrl.org/w1aw-operating-schedule>

CW ELMERS

Name	Call	Area	Email
Ned Asam	W2NED	Pittsford	w2ned@frontiernet.net
Tim Brown	WB2PAY	Ogden	tjbrown@rochester.rr.com
Pete Fournia	W2SKY	Penfield	pfournia@gmail.com
Bill Hopkins	AA2YV	Brighton	whopkin4@naz.edu
Bob Karz	K2OID	Webster	rkarz@rochester.rr.com
Joe Rowe	AG2Y	Webster	ag2y@rochester.rr.com
Harry Williams	KF2TV	Kingsland, GA	harryw7872@gmail.com

RADIO ELMERS

Name	Call	Area	Email
Tim Brown	WB2PAY	Ogden	tjbrown@rochester.rr.com
Dave Carlson	N2OA	Batavia	kdcarlso@gmail.com
Lawrence Hill	N2AJX	Henrietta	lawrence.hill@rit.edu
Rich Hoffarth	K2AXP		rhoffarth2000@yahoo.com
Bill Kasperkoski	WB2SXY	Pittsford	wb2sxy@gmail.com
Don Kiser	AC2EV	N Greece	dkiser100@gmail.com
Karl Heinz Kremer	K5KHK	Chili	k5khk@khk.net
Tim Magee	WB2KAO	Greece	585-704-5747
Mike Moore	KC2NM		mikemoore@ieee.org
Peter Schuch	WB2UAQ	Perinton	pschuch@rochester.rr.com
Forest Shick	WA2MZG	Webster	fshick3@gmail.com
Dave Timmons	W2DST	N Greece	dstimmons@gmail.com
Steve Verzulli	KA1CNF		verzulli@yahoo.com
Dan Waterstraat	W2DEW	Henrietta	higreen@rochester.rr.com

PUBLIC SERVICE REPORT

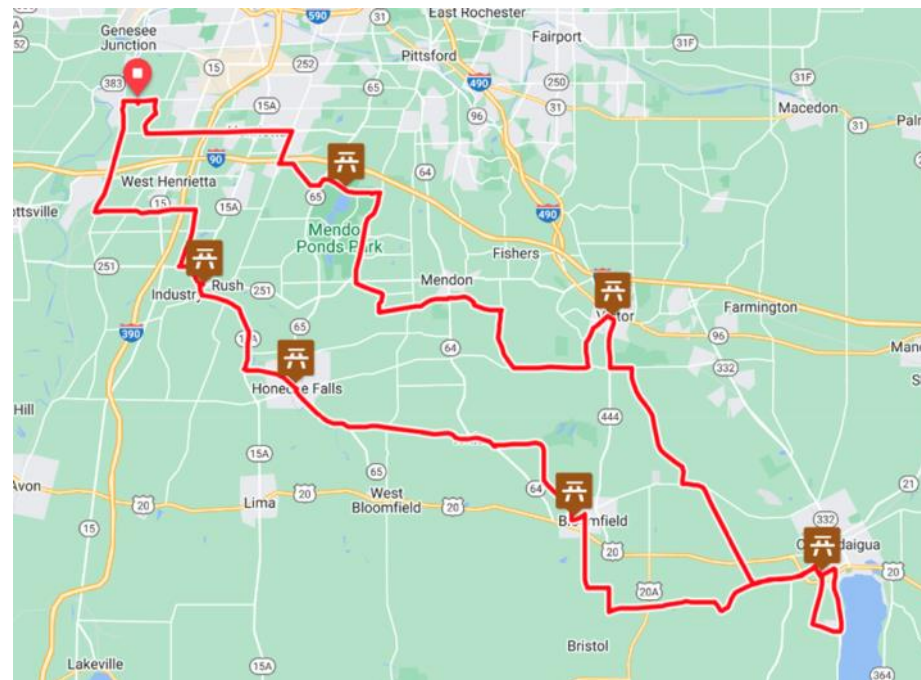
MIKE MOORE, KC2NM, PUBLIC SERVICE COORDINATOR

The American Diabetes Association Upstate New York Tour de Cure was scheduled for Saturday June 11 at the Xerox Campus in Webster but it was postponed to Saturday July 22 because of the Quebec wildfire smoke that occurred that week. At this time there have been no other changes to the plans for Tour de Cure but if there are, I will relay that information to the registered hams via email. I expect that there will be people with conflicts with the changed date so please let me know if you do. Also, if you did not sign up for the June 11 date but are available for July 22, I encourage you to sign up at the RARA Public service page.

We are adding a public service event this year and the logistics are just now in formation. **UR Medicine's Wilmot Cancer Institute** will host its first **Wilmot Warrior Weekend Friday**, Sept. 29 through Sunday, Oct. 1. The event features the inaugural Wilmot Breakaway Ride – Wilmot's first-ever cycling event – on Saturday, Sept. 30, as well as the 11th Annual Wilmot Warrior Walk and 5K Run on Sunday, Oct. 1 at Genesee Valley Park. RARA has been invited to provide route communications for the Wilmot Breakaway Ride on Saturday, Sept. 30th. This ride is made up of three ride courses with lengths of 25, 50, and 75 miles. The bike rides will start and end at UR Central Lab 211 Bailey Road, West Henrietta, NY 14586 and the ride courses will extend to the south and east as far as Canandaigua. The map of the 75 mile ride is shown following.

I expect that our RARA involvement will include a communications command center, sweep and sag vehicles, and rest stop communications with directed communications net functioning as we do for Tour de Cure and MS Rides. I would like to recruit a pair of event captains to direct this effort. RARA has a long history of running these kind of events and I can work closely with you and provide a template for the organization. If you would like to serve our club in this way please contact me at mikemoore@ieee.org.

Remaining events in the 2023 public service calendar are listed in the following table. Visit https://rochesterham.org/public_service.htm for more information and to volunteer.



Upcoming Public Service and Operating Events:

Event	Location	Day	Date
Finger Lakes Tour de Cure	Xerox Campus Webster	Saturday	July 22, 2023
MS Roc the Ride Great Lakes Adventure	Lakeside Beach State Park	Saturday	Aug. 12, 2023
ILLW	Charlotte-Genesee Lighthouse	Saturday	Aug. 19, 2023
Fairport Lift Bridge Regatta	Erie Canal – Fairport, NY	Saturday	Sept. 23, 2023
Wilmot Breakaway Ride	UR Central Lab, 211 Bailey Road, West Henrietta	Saturday	Sept. 30, 2023
JOTA / Ham Radio Demonstration - CTC	Camp Cutler, Naples, NY	Saturday	Oct. 21, 2023
Pumpkin Patrol	Overpasses of the New York State Thruway	Monday and Tuesday	Oct. 30-31, 2023

INTERNATIONAL LIGHTHOUSE AND LIGHTSHIP WEEKEND AT CHARLOTTE BEACH

JIM STEFANO, W2COP, 2023 ILLW Host

Here is a great combination ... Ham Radio and Lighthouses! Do you like both or maybe interested in lighthouses? Do you want to join a global event that celebrates the heritage and importance of these maritime beacons? If so, you won't want to miss the annual **International Lighthouse and Lightship Weekend (ILLW)** on **August 19th** from **10AM-5PM***, celebrated right here in Rochester in Charlotte, one of Rochester's great destinations!

The ILLW is one of the most popular international amateur radio events in existence, attracting over 500 lighthouse entries from over 40 countries every year. It is not a contest, but a fun and friendly way to make contact with other ham radio operators around the world who share a passion, fondness or interests in lighthouses.

This year, you have a chance to participate in the ILLW at the **Genesee-Charlotte Lighthouse** in Rochester, NY. This historic lighthouse was built in 1822 and is the oldest active lighthouse on Lake Ontario. It is also a museum and a landmark that offers stunning views of the lake and the city.

The Rochester Amateur Radio Association will be hosting the event and providing radios, antennas, and operators for anyone who wants to join in. You can operate on any authorized band or mode you prefer. You can also enjoy a tour of the lighthouse and learn about its history and significance. If you've been in the past, come back to meet old friends, make new ones and chew the rag. Our summer months are short but this event is memorable.

But that's not all! The Genesee-Charlotte Lighthouse is located at the Charlotte Beach, which is a popular destination for recreation and relaxation. You can enjoy the sandy beach, the cool breeze, and the beautiful scenery. You can also find plenty of activities and attractions nearby, such as:

- The Ontario Beach Park, which features a carousel, a playground, a picnic area, and a performance pavilion.
- The Port of Rochester Terminal Building, which houses restaurants, shops, and a visitor center.
- The Charlotte-Genesee Lighthouse Historical Society, which offers exhibits and programs on the history of the lighthouse and the area.
- The Abbott's Frozen Custard, which serves delicious ice cream and other treats

So what are you waiting for? Mark your calendar and plan your trip to the Genesee-Charlotte Lighthouse for the ILLW weekend. You will have a blast operating

from this unique location, making new friends, and exploring the beach. Don't miss this opportunity to be part of a worldwide event that celebrates lighthouses and ham radio!

For more information about the ILLW, visit <https://illw.net/> or <https://www.lighthouse-weekend.international/>. For more information about the Genesee-Charlotte Lighthouse visit <https://geneseeighthouse.org/>

We hope to see you there!

13 COLONIES SPECIAL EVENT

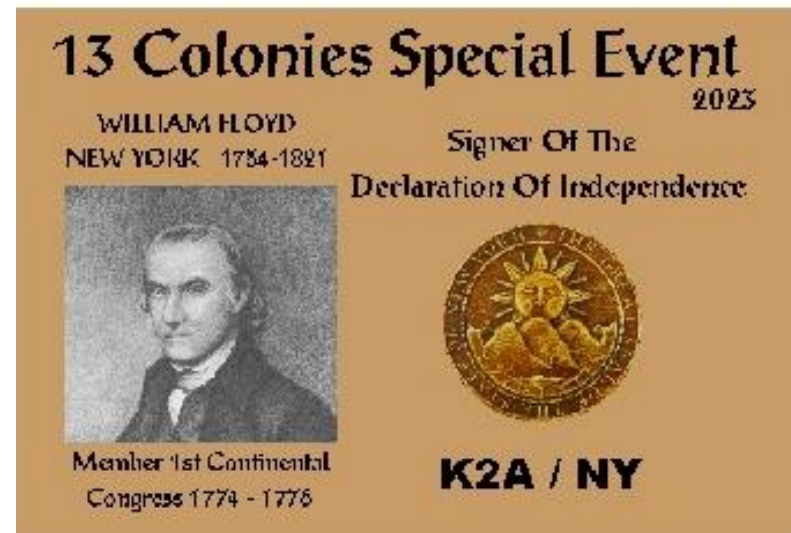
The 15th Annual 13 Colonies Special Event is being held July 1st through the 7th, 2023. For complete details check out their web site: www.13colonies.us

See the RARA Rag July, 2022 for more info on the event and founder.

<https://www.rochesterham.org/documents/rararags/2022-07.pdf>

Each Colony State Offers a QSL card based on the event theme. In 2023 the theme is "Signers of the Declaration of Independence".

What is unique is that the certificate offered is a full color rendition of the year's theme and is different each year.



WHAT'S THE ATTRACTION

(A Ribbon Microphone Story)

Forest Shick, WA2MZG and Bill Hopkins, AA2YV

Hi, I'm Mike and I am back to continue the story of Bill and Forest's Ribbon Microphone.

One of the primary principles of ribbon microphones is a moving conductor in a magnetic field. In this case, the conductor is a crinkled foil strip about 0.2" wide. The movement of the conductor is caused by sound waves / vibrations. This movement taking place in a magnetic field produces a current flow in the conductor proportional to the vibration.

Forest had originally purchased a magnet, 2.36 x 0.4 x 0.1 inches with 18lbs of pull. There were pictures of these magnets in the previous article. The magnets were purchased on Amazon:

https://www.amazon.com/dp/B0772PFC89?ref=ppx_pop_dt_b_product_details&th=1

He designed 2 motor frames one holding 2 magnets and one holding 4 magnets. See the pictures in the previous article.

Forest then decided to try 2 other sizes of magnets which he purchased from K&J Magnetics.

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<https://www.kjmagnetics.com/>

The thought behind the different sized magnets was to see how different the signal levels would be for a given sound input for each motor frame. Does the size or pull strength of the magnet make a difference?

Here are the 2 new magnets:

- BY066 - 2.0 x 0.375 x 0.375 inches with 36lbs of pull
- BX044 - 1.0 x 0.25 x 0.25 inches with 16lbs of pull

This of course meant that 2 new motor frames had to be designed and printed, one for each new magnet.

The K&J web site provides some useful information on neodymium magnets.

If you are interested in learning more about magnets, take a look at the topics with the red lines.

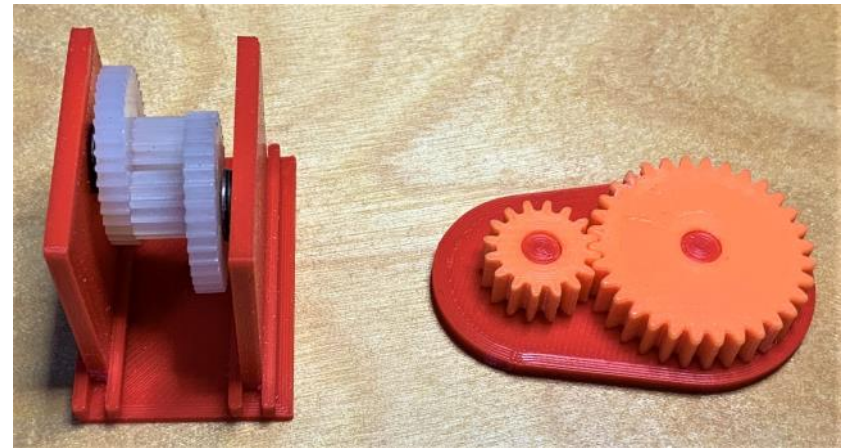
Now Bill and Forest had 4 magnet / motor frame designs to test. The next step is cutting and crinkling the ribbons.

Forest ordered 2.5 micrometer thick aluminum foil from Geistnote. I believe that is 0.000098 inches. The household aluminum foil that Forest measured was 0.0005 inches thick.

<https://geistnote.com/diy-products/ribbon-microphone/foil/>

Trying to cut the very thin foil is going to be a challenge so they decided to use the household aluminum foil for the first tests - until they were comfortable that they could cut and crinkle the 2.5um foil with out damaging the foil.

They designed 2 different crinkle jigs. One jig for the cogs that Bill had purchased and one for the gears that Forest made. The white gears make about 15



crinkles per inch with a height of 0.04 inches. The orange gears make about 9 crinkles per inch with a height of .045 inches.

The next step is to put the magnets in the motor frames. For the first magnets, shown in the previous article, this wasn't a big deal. Just press them into the motor frame.

The new magnets like to "jump" out of the frame and stick together. 0.25 inch spacers were made to hold the magnets apart while they were glued in to the frame.

The magnets are a bit fragile. Two of the smaller magnets have been damaged when they "jumped" out of the frame and smashed together. In the accompanying video there is a view of the broken magnets.

The first picture shows the spacer. The second, the spacer holding the magnets apart - no glue - just the magnetic field holding the magnets together. The third picture shows the magnets glued into the frame. The spacer remains until the glue has set. Finally the spacer is removed. The fourth picture shows the added contacts.



With the ribbon cut and crinkled and the magnets glued into the motor frame, Forest centers the ribbon between the magnets - the ribbon must not touch either magnet. Then adds the other half of the motor frame. Finally soldering on the leads.

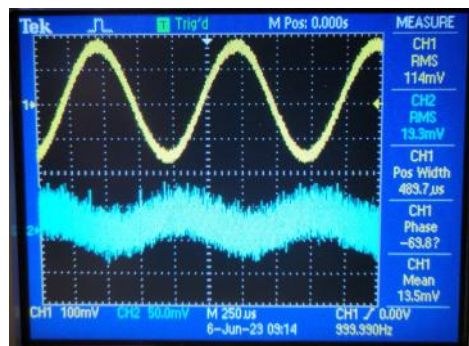
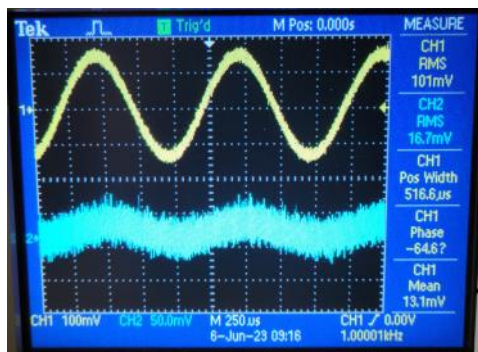
Here is a link to a video showing the progress to date. The video covers the magnets, cutting the copper tape for contacts, crinkling and installing the aluminum foil ribbon and finally the test setup and a simple test of the microphones.

<https://youtu.be/hPAfGKqOKkc>



For the initial testing, the transformer will be attached with clip leads.

You may have noticed in the video that a Shure PG57 microphone is in the test setup. The PG57 becomes the reference microphone. This will allow easy comparison of the results for the different microphone configurations



In the above pictures, the yellow trace is the PG57 and the blue trace is the microphone under test. The Yellow channel is set for 100mv per division with a reading of about 100mv RMS. The Blue channel is set for 50mv per division with

a reading of about 15mv RMS. The picture on the left shows the 2 magnet microphone and the right is the 4 magnet microphone. There is a barely perceptible improvement in signal amplitude!

This is clearly not an acceptable result.

Hopefully changing to the 2.5um foil will increase this level. The foil will be more flexible and lighter. This should allow the sound waves to easily vibrate the foil to a greater amplitude in the magnetic field and thus yield a stronger / larger output voltage.

In preparation for this article Forest and Bill constructed 4 different configurations of microphones. Three of the mics gave results similar to the previous pictures. The fourth had no output. I wonder where the problem is?

The next step was to use the 2.5um foil. Cutting the foil strip was easy - no problem. The problem arose trying to crinkle the extremely thin foil. The foil wandered in the tool and came out crooked and folded. Forest has to redesign the crinkle tool.

While at the RARA Hamfest Bill found some toroids and they will attempt to wind their own audio transformer.

Stay tuned for the next exciting episode. (most likely in September)

RADIO MERIT BADGE CLASS HELD

Henrietta, NY. On Saturday, April 30, 2023, volunteers from RARA put on a radio merit badge session at Seneca Waterways Council's building in Henrietta. Thirteen Scouts from throughout the council's area participated. RARA volunteers included: Kevin, N2KCQ; Jon, N2JAC; Joe, AD2DB; Mike, KC2NM; George, K4GWA; and Tim, WB2PAY. Mark, KC2UES, coordinated the event with the assistance of Brendan Flaherty, the Council Program Director.

We used the K2BSA slides that break down the 26 merit badge requirements into three modules. The thirteen Scouts split into two groups and rotated among the instructors, and the hands-on portions. Jon wrote a script for a mock search and rescue, and we used that script along with several mobile radios (thank you, Jon) and some HTs to show the Scouts how to run a network. Tim brought the club's FT-710 and external monitor to make contacts on 20 meters and explained RF propagation to the Scouts.

The program started in the morning at 0900 and finished up about 1430. Seneca Waterways provided a pizza and soda lunch. All thirteen Scouts earned the radio merit badge at the end of the day. All the Scouts have been invited to try out the GOTA station at Field Day on Saturday afternoon, June 24 at Kent Park in Webster.

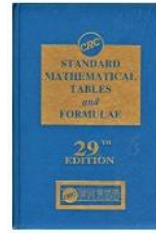


THOSE WERE THE DAYS

FOREST SHICK, WA2MZG

I recently found my Texas Instrument SR51A calculator. It prompted me to share my calculator story with you!

I started MCC in 1967 with a pencil and paper for calculations. In 1969, at Indiana Institute of Technology, it was strongly suggested that we buy an expensive slide rule and CRC Tables.



When handheld calculators started to appear on the college scene, namely the Bowmar calculator, the debate began - do I really need a calculator - I have a slide rule!

http://www.vintagecalculators.com/html/bowmar_calculators.html

Eventually the thrill of technology won and I purchased the TI SR10 calculator.

<https://www.vcalc.net/ti-hist.htm>

At about this time, HP introduced its scientific calculator. But expense and RPN (Reverse Polish Notation) were the deterrent.

<https://www.hpmuseum.org/hp35.htm>

The SR10 along with my slide rule and CRC tables made a very "powerful" scientific calculator. Not only did the SR-10 have the 4 basic math functions, it included square, square root and reciprocal - WOW!

With my SR10, slide rule and CRC tables I was faster than most students at solving problems - RPN really slowed down the process of solving problems.

Finally graduating and heading off to Motorola Communications Division, I needed a better calculator and purchased the TI SR51A scientific calculator.

Which is the point of the story.

Check out the pictures of the SR-51A. Through hole components - no surface mount. Notice the 2 stacked chips.



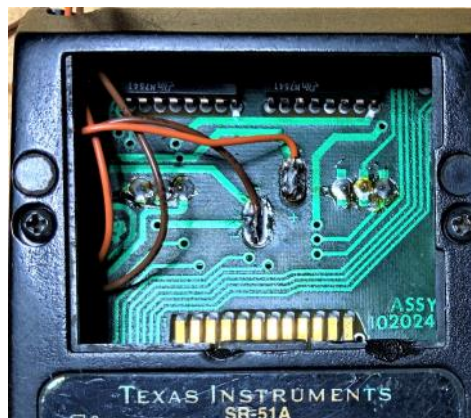
<https://commons.wikimedia.org/wiki/File:TMC0501NL.jpg>

The stacked chips were read only memories



The Nicad batteries were dead and corroded but I was able to power up the calculator using a cell phone battery and a USB-A male breakout board from Amazon.

https://www.amazon.com/dp/B09LC8WQCD?psc=1&ref=ppx_yo2ov_dt_b_product_details



SR-51A featured: x^2 , \sqrt{x} , $1/x$, y^x , x root y , factorial, permutations, mean, variance, std deviation, linear regression with trend line projection, random number generator, trig, hyperbolic trig functions, e^x , $\ln x$, \log , 10^x , %, and more.

RARA CALENDAR

TIM BARRETT, K9VB, MEMBERSHIP SECRETARY

July 2023						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 ROC City Net 28.405 MHz, 9pm RAC Canada Day Contest Venezuelan Ind. Day Contest NZART Memorial Contest Marconi HF Contest Original QRP Contest DL-DX RTTY Contest
2 NZART Memorial Contest Marconi HF Contest Original QRP Contest DL-DX RTTY Contest	3 AWA Net 145.110 MHz, 7pm VHF Group 9pm 144.260 SSB ICWC Medium Speed Test OK1WC Memorial WW Sideband Activity Contest ARS Spartan Sprint RSGB 80m Club (CW)	4 Phone Weekly Test	5 NO MONTHLY MEETING ROC City Net ~3.830 MHz, 7p A1 Club AWT CWOps Test VHF/UHF FT8 Activity Contest Mini Test 40, 80 Walk for the Bacon Contest QRP Foxhunt	6 RARA BoD Mtg 6:30pm ARES Net 146.610 MHz, 7pm VHF Group 9pm 50.205 USB NRAU 10m Activity Contest NCCC FT4 Sprint SKCC Sprint (Europe)	7 K1USN Slow Speed Test	8 ROC City Net 28.405 MHz, 9pm RAGS Hamfest, Camillus NY IARU HF World Championship SKCC Sprint Marathon PODXS 070 40M Sprint
9 IARU HF World Championship SKCC Sprint Marathon PODXS 070 40M Sprint States QRP Sprint QRP ARCI Homebrew Sprint K1USN Slow Speed Test	10 AWA Net 145.110 MHz, 7pm VHF Group 9pm 144.260 SSB ICWC Medium Speed Test OK1WC Memorial WW Sideband Activity Contest	11 Phone Weekly Test	12 ROC City Net ~3.830 MHz, 7p A1 Club AWT CWOps Test VHF/UHF FT8 Activity Contest Mini Test 40, 80 RSGB 80m Club Champ, SSB	13 ARES Net 146.610 MHz, 7pm VHF Group 9pm 50.205 USB EACW Meeting NCCC Sprints	14 K1USN Slow Speed Test	15 ROC City Net 28.405 MHz, 9pm Batavia Hamfest, Alexander IARU Region 1 70 MHz Contest NA QSO Party, RTTY CQ Worldwide VHF Contest
16 IARU Region 1 70 MHz Contest NA QSO Party, RTTY CQ Worldwide VHF Contest RSGB Int. Low Power Contest CQC Great Colorado Gold Rush Run for the Bacon QRP Contest	17 AWA Net 145.110 MHz, 7pm VHF Group 9pm 144.260 SSB ICWC Medium Speed Test OK1WC Memorial WW Sideband Activity Contest RSGB FT4 Contest	18 Phone Weekly Test	19 ROC City Net ~3.830 MHz, 7p A1 Club AWT CWOps Test VHF/UHF FT8 Activity Contest Mini Test 40, 80 Walk for the Bacon Contest	20 ARES Net 146.610 MHz, 7pm VHF Group 9pm 50.205 USB NTC QSO Party NCCC Sprints	21 K1USN Slow Speed Test	22 ROC City Net 28.405 MHz, 9pm YOTA Contest ARAM 50 MHz Contest
23 K1USN Slow Speed Test	24 AWA Net 145.110 MHz, 7pm VHF Group 9pm 144.260 SSB ICWC Medium Speed Test OK1WC Memorial WW Sideband Activity Contest	25 Phone Weekly Test SKCC Sprint	26 ROC City Net ~3.830 MHz, 7p A1 Club AWT CWOps Test VHF/UHF FT8 Activity Contest Mini Test 40, 80 RSGB 80m Club Champ, Data QRP Foxhunt	27 ARES Net 146.610 MHz, 7pm VHF Group 9pm 50.205 USB RSGB 80m Club Champ, Data NCCC Sprints	28 K1USN Slow Speed Test	29 ROC City Net 28.405 MHz, 9pm RARA Picnic, Mendon Ponds MARAC US Counties QSO Pty Feld Hell Sprint RSGB IOTA Contest
30 MARAC US Counties QSO Pty RSGB IOTA Contest ARS Flight of the Bumblebees	31 AWA Net 145.110 MHz, 7pm VHF Group 9pm 144.260 SSB ICWC Medium Speed Test OK1WC Memorial WW Sideband Activity Contest QCX Challenge					

VE TEAM

Testing takes place on the 3rd Saturday September - April

Testing Location

RIT
Rochester Institute of Technology
Building 16 -Schmitt Interfaith Center
43.08402626755475, -77.6734520379509

- Easiest path is from Parking Lot D it can be accessed from West Jefferson Rd via Andrews Memorial Dr or Lowenthal Rd
- From parking lot D walk south up the ramp to the Schmitt Interfaith Center.
- Once inside there is an elevator over to your left or stairs in front of you. Go to the first floor and you will find the Skalny room.

Please Note: this room cannot be accessed from the door under the bridge.

Pre-registration is required visit:

<https://hamstudy.org/sessions/14612/inperson> to find the latest session.

More information is available on the RARA website:

https://rochesterham.org/license_testing.htm

Applicants must supply their own pen, pencil, calculator

Testing begins at 10:00AM.

Also Note: The exam is free however the FCC now charges \$35 for applications. This fee is NOT paid to the VE team. It is paid directly to the FCC. You will receive an email from the FCC when your application is processed. We will also have an information sheet available

James Abounader	KD2SES	E
James Baker		T
Jonathan Becker	KE2BAE	E
Dan Brown		T
Connie Converse		T
Robert Kennell	KD2YUK	E
Aidan MaKinster		T
David McGann	KD2ZZD	G
Gerard Watkins		T
Andrew Ziogas	KD2SSH	E
Daniel Lincoln	KB2GQI	G
Zachary Haight		T
Adam Francisco		T

New licensees' names are in BOLD

NEWS FROM AREA CLUBS

MONROE COUNTY ARES / RACES News

Monroe County Amateur Radio Emergency Service (ARES)® is an amateur radio public service organization based in Monroe County, New York, and is open to all licensed amateur radio operators. Monroe County Radio Amateur Civil Emergency Service (RACES) is a program of the Monroe County Office of Emergency Management. We participate in training and emergency exercises so that we can serve other agencies during times of communication failure.



The Monroe County Amateur Radio Emergency Service, Inc. holds its meetings on the fourth Thursday of each month except in July, August, November and December. The meeting in November is on the third Thursday to avoid interfering with Thanksgiving. Anyone interested, members and non-members, are welcome to attend. The meetings are in person at the county EOC at 6:00 PM and are also available via Zoom. Please check our website for any schedule changes. Prospective members can request an invitation by email to: secretary@monroecountymcomm.org.

Monroe County ARES/RACES meets on the air every Thursday of the month at 7:00 PM, on the W2ARM 146.61 MHz (-) 110.9 Hz PL and 444.45 MHz (+) 110.9 Hz PL repeaters. Our club callsign is WB2EOC. On nights when we hold our regular meeting, the net is at 5:30 PM.

Web: www.monroecountymcomm.org

Facebook: Monroe County Amateur Radio Emergency Service, Inc.

Twitter @MCARESNY

ROCHESTER DX ASSOCIATION, RDXA

No meeting in July.

The next event will be "IRVfest" August, 22

Please check our website www.rdxa.com for up-to-date information regarding meeting locations and requirements, if any.



XRX AMATEUR RADIO CLUB

The XRX Amateur Radio Club meets the second Thursday of the month (except July and August). 7PM at the Webster Recreation Center. Zoom meeting info, when available, is sent out to our mailing list. How to subscribe and up-to-date information is always on our website at <http://xarc.us>. We have a System Fusion repeater south of the city on 145.290, and another on 444.825 west of the city that is also D-Star capable. Both are also analog capable with 110.9Hz tone. All are welcome.

AMATEUR RADIO ASSOCIATION OF THE SOUTHERN TIER, ARAST

ARAST meets the third Thursday of every month at the Emergency Communications Center on Harris Hill in Big Flats, next to the National Soaring Museum. Our Chemung County ARES (CCARES) organization meets the first Tuesday of the month except February at the same location. Both organizations serve amateurs in Chemung, Steuben and Schuyler counties in New York and Bradford and Tioga counties in Pennsylvania. All are welcome to attend our meetings.

NOTE: Both CCARES and ARAST monthly meetings are now being held both in person and online. Check out the Upcoming Events at our website, www.arast.info, for the latest details.

Don't forget to check out our repeaters when you visit the area. N3AQ 147.36(+) and the W2ZJ 146.70(-) are the principal 2-meter repeaters. The latter can also be accessed via Echolink node 574415 with the call sign KD2QND-R. A full list of repeaters that can be heard in the Twin Tiers area surrounding Chemung County can be found at http://www.arast.info/arast_website/public/repeaters.php.

We also invite you to check out our new 6-meter net on Wednesday evenings at 9 p.m. local time on 50.200 MHz USB. The net usually lasts approximately one hour. Operators are encouraged to check in and participate in the round table discussions or simply stop by from time to time. We would welcome participation from RARA members.

The 48th Elmira Hamfest will be coming up on Saturday, September 30 at the Chemung County Fairgrounds. Please see our hamfest site at http://www.arast.info/arast_website/public/hamfest.php for the complete details.

COMMUNITY AMATEUR RADIO CLUB, CARC

If you are interested in being a part of this forward thinking and active club, visit us at a meeting or join us on one of our weekly nets. We meet at the Hoag Library (134 S. Main St. Albion, NY) on the first Saturday of each month at 7PM. Each meeting has a brief training/refresher period with upcoming topics including: net protocol, repeater set-up/maintenance, and digital signaling. The club holds a net every Sunday evening at 8pm (winter) and 9PM (summer) - 0100 UTC Monday - on 147.585 simplex, and we host the Thursday Night Social Net, Thursday at 8:30PM on 147.285+. We'd love to hear you check-in!

DRUMLINS AMATEUR RADIO CLUB

The Drumlins Amateur Radio Club meets every third Wednesday of the month at 7:30 PM at the Wayne County EMO/Sheriff's Office 7376 State Hwy 31 #1000, Lyons, NY 14489. Doors open at 7 pm, meeting starts at 7:30 pm. Announcements will be made on the 146.685 repeater. The Drumlins ARC website address is <http://drumlinsarc.us/>

DIGITAL COMMUNICATIONS ASSOCIATION OF PERINTON, DCAP

DCAP members continue to experiment with leading edge digital communication modes. We were formed in 1994 to foster the development of local and regional packet radio networks using AX25 and TCP/IP. Today we have members using the club sponsored DSTAR repeater (KB2VZS on 444.8MHz), several personal and publicly accessible DSTAR hotspots, Yaesu System Fusion systems on non-club repeaters and DMR systems through repeaters and personal hotspots. DCAP members meet for breakfast at 7AM nearly every Saturday morning at Rikki's Family Restaurant in the village of Fairport and everyone is welcome to join us. Talk in is on the KB2VZS analog repeater on 146.715MHz with a PL tone of 110.9Hz.

KEUKA LAKE AMATEUR RADIO ASSOCIATION, KLARA

Joel has been working on the Simplex Challenge! Date is set for May 6, 2023 to run from noon till 4pm. Be watching for the information on our webpage and I will be posting it on here also. This year will be 2 meter and 6 meter! So exciting so please plan to join in this event!

ORLEANS COUNTY AMATEUR RADIO CLUB

The Orleans County ARC meets every 2nd Monday of the month at the Orleans County Emergency Operations Center, 14064 West County House Road, Albion, NY 14411. Doors open at 6:00PM, meeting starts at 7:30PM. Anyone with an interest in amateur radio is welcome. Program topics vary from month to month.

The club has an open two-meter net every Tuesday night at 9:00PM local time on the club repeater, WA2DQL/R (145.27 -600KHz offset, 141.3 tone). Everyone is welcome to check in.

See the club website <http://ocarc.us> or contact club Secretary Ron Craig, N5BNO for more information.

SKENOH ISLAND AMATEUR RADIO CLUB, SIARC

The Skenoh Island Amateur Radio Club meets every second Wednesday of the month at 7:30PM at the Ontario County Safety Training Facility, 2914 County Road 48, Town of Hopewell. We have License Exam Testing every other month which begins at 6:30PM. The next meeting will be July 12th, at 7:30PM. There will be VE exam testing.

SIARC is also holding a Health and Welfare NET Monday through Friday each week at 2000 hours on the SIARC 146.820 repeater (located in Canandaigua, NY), Tone 110.9. This net is to pass along general information and keep hams in touch. All hams are invited to participate. .

ROCHESTER VHF GROUP

You are invited to
join us on-line &
on-the-air! We're
here to help you to
use the license that
you worked so hard to get.



Check out what we do by visiting our
website at <http://RVHFG.org> to start.

Join our e-mail group by sending a message
to RVHFG+subscribe@groups.io.

Join our weekly on-the-air nets on SSB:
2 meter band - Monday 9 PM 144.260 USB
6 meter band - Thursday 9 PM 50.205 USB

No VHF SSB radio (yet) to join the nets?
Log-in to Echolink [ka2ene-L #23426](#)

We can help to answer the question, "What radio
should I buy?" Here's a list of HF+++ radios, those
with the HF bands and at least three VHF bands,
giving you access to all sorts of VHF fun. Research
each one to see which serves you best. Ask
questions on our email list. We're here to help!

Yaesu FT-100D	Yaesu FT-817	Yaesu FT-818
Yaesu FT-847	Yaesu FT-857	Yaesu FT-897
Icom IC-706MKIIG	Icom IC-7000	Icom IC-7100
Icom IC-9100	Kenwood TS-2000	

Some are older models and some are newer models,
but all provide access to the 6 meter, 2 meter, and
70 centimeter bands using both traditional FM and
the exciting narrow-band SSB mode that supports
unexpectedly long-distance (100's of km's routinely
and 1,000's of km occasionally) VHF communication.
These are good all-around radios no matter what
club you end up affiliating with later. We hope its us.

ROCHESTER RADIO REPEATER ASSOCIATION

The Rochester Radio Repeater Association, RRRA will not be having its regular meetings for July and August. We will be on summer hiatus. Our next meeting will be on September 15th.

Stay tuned to our web site, www.k2rra.org for any current information. We are still looking for a club Secretary. If you wish to apply contact one of the listed club officers or show up at a regular meeting. The current club officers are Bob Shewell - N2HJD - President, Bob Odell - N2BZX - Vice President, and Bob Smith - NS2B-Treasurer / Membership Chairman. RRRA also accepts donations to the club. If you are not currently a member and want to support RRRA, you can join at our monthly meeting or on our web site using Pay-Pal. www.k2rra.org

Batavia Hamfest

Saturday - July 15, 2023

Alexander Firemen Grounds

10708 Alexander Rd.
Route 98
One mile south of Rt 20, Alexander, NY 14005

MAP and Directions

Outdoor Flea Market: FREE Tailgating 6:00am - till
Buy/Sell Ham radio gear

Overnight Camping Allowed: Arrive after 6PM on Friday (the night before hamfest) .There is a fee for hookup and using the grounds electric or water

Admission: Only \$8.00 Admission includes free tailgating and free indoor space

VE EXAM: 8:00AM
To preregister for test contact John Maxwell
maxwell@acsu.buffalo.edu or
Call 716--404-9256

Talk In: 147.285, PL 141.3 Batavia repeater - \$25 prize

Breakfast and lunch available

Sponsored by: The Lancaster Amateur Radio Club, w2so.org

Questions: contact Luke, N2GDU luke48@gmail.com

THE AMATEUR'S CODE

Originally written by Paul M. Segal, W9EEA (1928)

THE RADIO AMATEUR IS:

CONSIDERATE	Never knowingly operating in such a way as to lessen the pleasure of others.
LOYAL	Offering loyalty, encouragement and support to other amateurs, local club, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.
PROGRESSIVE	With knowledge abreast of science, a well built and efficient station and operation beyond reproach.
FRIENDLY	With slow and patient operation when requested, friendly advice and counsel to the beginner, kindly assistance, co-operation and consideration for the interests of others. These are the hallmarks of the amateur spirit.
BALANCED	Radio is an avocation, never interfering with duties owed to family, job, school or community.
PATRIOTIC	With station and skill always ready for service to country and community.

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<https://samlexamerica.com/>

www.arrl.org



www.dxengineering.com

QRP Quarterly

QRP Amateur Radio Club
International

www.qrparci.org



<https://cq-amateur-radio.com/>



<https://heilhamradio.com/>



www.mfjenterprises.com



www.n3fjp.com



<https://alphaantenna.com/>



<https://www.hamradiodeluxe.com/>



<https://cometantenna.com/>



<https://www.easywayhambooks.com/index.cfm>

RARA OFFICERS, DIRECTORS AND COORDINATORS

OFFICERS

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ACTIVITY COORDINATORS

Club Historian	Ed Gable, K2MP	egable@rochester.rr.com	Online Meetings	Scott Theis, W2LW	sa_theis@hotmail.com
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Skenoh Island Amateur Radio Club (SIARC)

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West Side Amateur Radio Club

XRX Amateur Radio Club

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Rochester Makerspace

David Duckles: rocmakers@gmail.com

AUGUST RAG DEADLINE

JULY 15, 2023

**RARA MEETS AT 7PM ON THE FIRST
WEDNESDAY OF EACH MONTH.**

JOIN US IN PERSON

OR

ONLINE AT:

**There is NO July Meeting
Come to the Picnic**

CONTACT WEBMASTER@ROCHESTERHAM.ORG FOR SUPPORT

Rochester Area Repeater Listing

THE RARA RAG

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P.O. Box 93333, Rochester, NY, 14692-8333

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